



**U.S. Department of Energy
Technical Qualification Program**

Conduct of Assessments Topical Area

Study Guide

for the

***Nuclear Safety Personnel
Qualification Standard***

March 1997

Conduct of Assessments for Nuclear Safety Personnel

Competency 2.8 Nuclear safety system personnel shall demonstrate a familiarity level knowledge of Department of Energy (DOE) Order 5482.1B, Environment, Safety, and Health Appraisal Program.

1. Supporting Knowledge and/or Skills

- a. Discuss the following nuclear safety assessments/surveillance activities:
 - Determination of assessment/surveillance requirements
 - Operation/Area Office and contractor notification
 - Assessment/surveillance agenda
- b. Identify and discuss the essential elements of the following:
 - Team pre-assessment meetings
 - Assessment entrance meetings
 - Assessment activities
 - Assessment exit meetings
 - Team post-assessment meetings
- c. Discuss the steps involved in the preparation of an assessment report.

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2. Self-Study Activities (corresponding to the intent of the above competency)

- NOTES:
- The DOE Orders are in a state of transition. Please refer to the following world wide web site for a cross reference of new and old Orders: www.explorer.doe.gov
 - Below are web sites containing many of the references you may need.

Web Sites		
Organization	Site Location	Notes
Department of Energy	http://cted.inel.gov/cted	Clearinghouse for Training, Education, and Development
Department of Energy	http://www.explorer.doe.gov/	DOE Standards, Guides, and Orders
U.S. House of Representatives	http://law.house.gov/cfr.htm	Searchable Code of Federal Regulations

Competency 2.8 addresses Nuclear Safety personnel's working level of knowledge for the Department of Energy's (DOE) Environment, Safety, and Health Appraisal Program. To support the review and understanding of the competency, Supporting Knowledge and Skills and Self-Study Information has been developed. The Self-Study Information specifically address those areas needed for understanding the competency. The following documents are used in support of the Self-Study Information:

- DOE Order 5482.1B, Environment, Safety, and Health Appraisal Program
- DOE-HDBK-3012-94, Team Leader's Preparation Guide for Operational Readiness Review.
- DOE-STD-3006-95, Planning and Conduct of Operational Readiness Review

Through the understanding of Competency 2.8, Nuclear Safety personnel will become familiar with the Department of Energy Environment, Safety, and Health Appraisal Program.

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Read DOE Order 5482.1B, Environment, Safety, and Health Appraisal Program

EXERCISE 2.8-A Discuss the determination of assessments/surveillance requirements.

EXERCISE 2.8-B Complete the following table concerning the completion, transmittal, and response to Appraisal and Audit report.

Type of Appraisal/Audit	Report upon completion due	Organizational Response following report
Management Appraisal		
Technical Safety Appraisal		
Functional Appraisal		
Environmental Audit		

Read sections 1 through 4 of DOE-STD-3006-95, Planning and Conduct of Operational Readiness Review

Read DOE-HDBK-3012-94, Team Leader's Preparation Guide for Operational Readiness Review.

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EXERCISE 2.8-C Complete the following table concerning the makeup of the Assessment/Survey/Audit teams.

Type of Appraisal/Survey /Audit	Team consists of:
Management Appraisal	
Technical Safety Appraisal	
Functional Appraisal	
Internal Appraisal	
Environmental Survey	
Environmental Audit	

EXERCISE 2.8-D What activities occur at the entrance meeting?

EXERCISE 2.8-E Describe the Four Step Investigative Approach that can be used during assessments of a Contractor's Performance.

EXERCISE 2.8-F What information should be included in evaluator notes?

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EXERCISE 2.8-G Which types of questions are used during the interview process of an assessment? Why?

EXERCISE 2.8-H What items should be discussed at the daily team meetings?

EXERCISE 2.8-I What is the purpose of the daily Briefing Meeting with Senior Management?

EXERCISE 2.8-J You are assigned as an assessor and are to report the results to Management, describe the three (3) main parts of the presentation and the areas addressed in each of the areas.

EXERCISE 2.8-K What are the three (3) stages of the writing process for developing an Assessment Report?

EXERCISE 2.8-L What is the deductive style or writing used in an Assessment Report?

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3. Summary

Environment, Safety, and Health Appraisal Program Policy

The Environment, Safety, and Health Program encompasses those DOE requirements, activities, and functions in the conduct of DOE and DOE controlled operations that are concerned with: controlling air, water, and soil pollution; limiting the risks to the well being of operating personnel and the general public; and protecting property adequately against accidental loss and damage. Typical activities and functions related to this program include: environmental protection, occupational safety, fire protection, industrial hygiene, health physics, occupational medicine, process and facility safety, nuclear safety, emergency preparedness, quality assurance, and radioactive and hazardous waste management. It is the purpose of the DOE to establish the above through the following Departmental policies:

- a. Assure the protection of the environment and health and safety of the public.
- b. Provide safe and healthy workplaces and conditions for employees of DOE and DOE contractors.
- c. Protect Government property against accidental loss or damage.
- d. Assure compliance with applicable statutory requirements affecting Federal facilities and operations and where possible, consistent with Department's mission and supported by appropriate cost/benefit analysis, reduce identified environment, safety, and health risks, even though not mandated by specific requirements.
- e. Assure that Quality Assurance is pursued (i.e., that research, development, demonstration, and production activities are performed in a controlled manner; that components, systems, and processes are designed, developed, constructed, tested, operated, and maintained according to industry accepted engineering standards, quality practices, and Technical Specifications/Operational Safety Requirements; and that resulting technology data are valid and retrievable).
- f. Require line management to be responsible for effective Environment, Safety, and Health (ES&H) performance in their programs.

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Environment, Safety, and Health Appraisal Program Objectives

The main objectives of the Environment, Safety, and Health Appraisal Program are described below:

- a. Determine that Environment, Safety, and Health policies and requirements are appropriately interpreted and implemented by DOE and DOE contractor programs and organizations.
- b. Evaluate the effectiveness of Environment, Safety, and Health policies, requirements, and standards and their implementation.
- c. Provide management with objective, timely, and reliable information on Environment, Safety, and Health performance, including significant achievements and deficiencies.
- d. Provide management with recommendations, where appropriate, for improvements of Environment, Safety, and Health program performance.
- e. Determine the adequacy of DOE requirements for achieving DOE policy and Federal statutory Environmental, Safety, and Health requirements.

Appraisals, Audits, and Surveys

The three processes used to evaluate the performance of the Environment, Health, and Safety, program are appraisals, audits, and surveys. These processes provide management with an overview of the typical activities related to the following: environmental protection, occupational safety, fire protection, industrial hygiene, health physics, occupational medicine, process and facility safety, nuclear safety, emergency preparedness, quality assurance, and radioactive and hazardous waste management. The processes used to evaluate the program are described below:

- a. Management Appraisals - A documented determination of managerial effectiveness in establishing and implementing Environment, Safety, and Health program plans which conform to DOE policy requirements. It is based on analysis of functional appraisals, internal appraisals, and on the application of appropriate criteria. The appraisal is a review and evaluation of management performance covering all Environment, Safety, and Health disciplines and management responsibilities to assure proper program balance.

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- b. **Technical Safety Appraisals** - A documented, multi-disciplined appraisal of selected Department reactors and nuclear facilities conducted by a team selected by the Deputy Assistant Secretary for Safety, Health, and Quality Assurance (EH-30). They assure proper Department wide application of particular safety elements of the Environment, Safety, and Health program, nuclear lessons learned, and appropriate licensed facility requirements.
- c. **Functional Appraisals** - A documented review of an Environment, Safety, and Health (ES&H) specialty discipline performed in accordance with written guidance and criteria to verify by examination and evaluation of objective evidence at the facility and/or operation that applicable elements of the program have been developed, documented, and effectively implemented in accordance with specific ES&H requirements and needs.
- d. **Internal Appraisals** - An examination and evaluation by the operating level (either Federal or contractor) of those portions of its internal Environmental, Safety, and Health program, program plan implementation, and operations retained under its direct control.
- e. **Environmental Audit** - A documented assessment of a facility to monitor the progress of necessary corrective actions, to assure compliance with environmental laws and regulations and to evaluate field organizations practice and procedures.
- f. **Environmental Survey** - A documented, multidiscipline assessment (with sampling and analysis) of a facility to determine environmental conditions and to identify environmental problem areas of environmental risk requiring corrective action.

Factors for Environment, Safety, and Health Appraisals

The following factors are to be considered and applied as appropriate for use in the Environment, Safety, and Health appraisal program:

- **Management Directives** - The extent to which contract safety clauses, Environment, Safety, and Health program plans, codes, regulations, and directives are complied with and the degree of interest, initiative, and participation of management in their enforcement.
- **Policies, Standards, Permits, and Licenses** - The extent to which DOE and contractor Environmental, Safety, and Health policies and standards are written, published, transmitted, updated, and carried out.

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- Organization and Administration - The structure and effectiveness of the organization for achievement of its mission, including ensuring comprehensive, continuous preventive and protective Environment, Safety, and Health programs in all activities.
- Staffing - Adequacy in technical skill and number of staff assigned to carry out the Environment, Safety, and Health program.
- Training - The extent and adequacy of training, promotion, and education in the areas of Environment, Safety, and Health for both the staff and operating personnel.
- Communication - The extent to which experience and accumulated knowledge in DOE preventive techniques are disseminated.
- Documentation - The extent and adequacy of documentation covering Environment, Safety, and Health activities, including internal instruction, procedures, management guidance and policy, appraisal and corrective action files, and all other documentation enhancing audibility of the program.
- Incident and Accident Reporting - The determination of the adequacy of trend and risk analysis, including follow-up on accidents, incidents, and occurrences.
- Planning, Budgeting, and Spending - The adequacy of expenditures of available funding provided to meet Environment, Safety, and Health needs and long range planning.
- Environmental, Safety, and Health Appraisal Programs - Frequency, adequacy and records of formal appraisals, including timely notification of findings with an effective follow-up system.
- Environmental, Safety, and Health Evaluation of Current and Planned Facilities and Programs - Extent and adequacy of measures established to ensure that applicable requirements are correctly translated into specifications, drawings, procedures, and instructions. Determination of effectiveness of identification and evaluation of risks and the reduction of known risks to acceptable low levels.
- Performance - Comparison of overall experience in Environment, Safety,

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and Health areas and results of the individual programs with related general experience of similar DOE operations. Significant aspects of the ES&H program performance will be reviewed, taking into consideration the management support of the program and the extent to which sound technical and professional judgment is exercised in implementing the programs.

Elements of an Assessment

There are nine essential elements of conducting an assessment.

- a. Determining the Scope involves defining the boundaries for an evaluation. The following are factors to be considered when determining the assessment boundaries:
 - QA Systems- Refer to the criteria of DOE Order 5700.6C, 10 CFR 830.120, or the QA Manual of the facility being assessed.
 - Organizational Entities- Management personnel that have the responsibilities within the evaluation topic.
 - Locations- Physical area where assessment items exist.
 - Programs and Activities- Types of programmatic and work processes.
 - Hierarchy of Procedures- The level of procedures that are used to determine performance during the assessment.
 - Calendar Time- The time allotted for an assessment. Time can affect the population to be assessed. Compliance and performance based assessments use some prior time up to the present.
- b. Preparing the plan includes: scheduling the organization to be assessed, dates of the assessment, team member identification, purpose and scope of the assessment, arrangement for the entrance meeting, necessary escorts, and exit meeting.
- c. Conducting the entrance meeting involves the Team Leader introducing the participants, describing planned assessments, identifying points of contact, arranging for periodic briefings of the organizations being assessed, soliciting and answering questions, and arranging for the exit meeting.

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- d. The interview process is a free exchange of information. It is during this time that a positive, cooperative climate is established. The types of questioning include: open, closed, probing, and leading/loading. Open questions are used to obtain general information, closed questions are used to obtain specific information, probing questions are used to obtain clarifying or additional information. Leading and loaded questions are to be avoided.
- e. Evaluation techniques are essential because they provide the means to determine acceptability. The techniques include: 1) Traceback, 2) Tracethrough, 3) Comparison, and 4) Reinspect/Retest.
 - 1) The Traceback method involves selecting samples from end results, tracing backwards through the activities that produced the results, evaluating each step of the activity, and continuing such an evaluation to the upper tier requirement.
 - 2) The Tracethrough method begins with the evaluation starting with the commitment of the upper tier requirement, tracing through the control model/standard, and evaluating each step until arriving at an end result.
 - 3) The Comparison method compares "from a requirement" to "the object of that requirement". It determines acceptability in terms of compliance with the requirement. Comparison always compares from the requirement to the object of the requirement. Because comparison determines acceptability, it is highly useful.
 - 4) The Reinspect/Retest technique requires the evaluation team to reinspect/retest the product, compare results with those obtained by the initial inspection/test, and explore the differences that are beyond expected repeatability.
- f. Deficiency identification describes the deficiency. A deficiency is a variance from a requirement. Deficiencies may be symptomatic, systematic, or inadvertent. Deficiencies that affect product quality, health, equipment reliability, and commitments to governmental agencies should be promptly reported to the contractor or DOE management.

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- g. Conducting the exit interview is important because it verbally summarizes the assessment. The exit meeting should identify participants, discuss assessment results, deficiencies, items of concern, questions from the assessed organization, and subsequent schedule of events.
- h. Writing the report is documenting the result of an assessment. The purpose of a report is to provide documentation necessary to support findings and concerns identified by the assessor(s). The report should clearly state the status of reviewed areas and act as the reference for future discussions regarding corrective action plans.

Each assessment report will be unique, depending on the scope and results of the assessment. An example of a typical assessment report is shown in DOE Standard DOE-STD-1070-94 and DOE Standard DOE-STD-3006-95 and includes the following sections:

- 1) Cover Page
 - 2) Summary
 - 3) Background
 - 4) Description of Assessment
 - 5) Results and Recommendations
 - 6) Conclusion
- i. Verification of corrective actions consists of the following elements: correction of reported items, correction of identical items, identification of error cause, and action to prevent recurrence. A tracking system is a useful tool to track the identification of an open item as well the completion status. Without tracking the status, a high probability exists that some necessary steps will not be taken because of the many actions involved.

Developing an Assessment Report

When developing an assessment report the writing process consist of three stages: a. Planning, b. Drafting, and c. Reviewing.

- a. Planning- The most important stage of the writing process. During this stage, critical decisions are made about the messages and how to develop and organize the messages. The end goal is to develop an outline that clearly and concisely conveys the message(s) to the organization. Such planning provides a road map for developing the written product.

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- b. Drafting- During the drafting stage, the assessor writes the report using the results of the planning stage. In writing the report, the deductive style should be used and each paragraph should have focus and flow.

In using the deductive style, a general statement or conclusion is stated first, and then supporting information is added. The supporting information should be sufficient to prove the point of the general statement or conclusion.

- c. Reviewing- Consists of examining the written product. This examination should confirm that the written message is the intended message and that it is presented clearly and concisely. Review techniques include: time between drafting and reviewing, use of a cold reader, reading aloud, and focusing on paragraphs and sentences.

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4. Practice Exercise Answers

EXERCISE 2.8-A Discuss the determination of assessments/surveillance requirements.

The quality, frequency, and depth of appraisals shall be:

- commensurate with the hazard attendant with the respective operating activities;
- consistent with both the DOE policy of comparability and equivalence with similar regulatory programs;
- consistent with DOE policy of protection of personnel, property, and the environment.

EXERCISE 2.8-B Complete the following table concerning the completion, transmittal, and response to Appraisal and Audit report.

Type of Appraisal/Audit	Report upon completion due	Organizational Response following report
Management Appraisal	45 days	30 days
Technical Safety Appraisal	45 days	60 days
Functional Appraisal	30 days	30 days
Environmental Audit	30 days	30 days

EXERCISE 2.8-C Complete the following table concerning the makeup of the Assessment/Survey/Audit teams.

Type of Appraisal/Survey/ Audit	Team consists of:
Management Appraisal	Senior staff. Management representatives of the appraising organization should be present during opening and closing meetings.
Technical Safety Appraisal	Qualified specialists and led by member of EH-1 management.

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Type of Appraisal/ Survey/ Audit	Team consists of:
Functional Appraisal	Qualified specialists, the head and staff of the organization being appraised.
Internal Appraisal	Operating level personnel not directly responsible for performance of the activities being appraised.
Environmental Survey	Independent team of qualified specialists led by team leader and assistant team leader from the Office of Environmental Audit and Compliance. Will include a member from the field organization.
Environmental Audit	Team of qualified specialists lead by team leader from the Office of Environmental Audit and Compliance.

EXERCISE 2.8-D What activities occur at the entrance meeting?

- The Team Leader introducing the participants
- The planned assessments are described
- The points of contact are identified
- Periodic briefings of the organizations being assessed are arranged
- Soliciting and answering questions
- Arranging for the exit meeting

EXERCISE 2.8-E Describe the Four Step Investigative Approach that can be used during assessments of a Contractor's Performance.

- 1) What actually occurred?
The evaluator interviews or reviews the performance records to determine what actually occurred.
- 2) What was structured to occur?
The evaluator determines if the activity is structured to

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allow what actually occurred and whether other events should have occurred.

3) What should have been structured to occur?

The evaluator determines whether the previously observed structure complies with the intended and required structures.

4) Determine the affect on quality.

The evaluator examines the affect on quality of the output of the process.

EXERCISE 2.8-F What information should be included in evaluator notes?

Time (including month, day, year, and hour); identities (including number, model, revision, name, title); objective evidence quality; relationship to governing documents or criteria; and relationship to process, activity, or product.

The evaluator should remember it is easier to dispose of excess notes than to reconstruct objective evidence from insufficient notes

EXERCISE 2.8-G Which types of questions are used during the interview process of an assessment? Why?

Open questions are used to obtain general information. Closed questions are used to obtain specific information. Probing questions are used to obtain clarifying or additional information. Leading and loaded questions are NOT to be used.

EXERCISE 2.8-H What items should be discussed at the daily team meetings?

- Items for samples
- Areas of concerns
- Deficiencies
- Strengths

EXERCISE 2.8-I What is the purpose of the daily Briefing Meeting with Senior Management?

Allows the Team Leader to meet with the senior manager daily to ensure that the evaluation team and the evaluated

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organization arrive at the exit meeting with similar perspectives on the evaluation results.

EXERCISE 2.8-J You are assigned as an assessor and are to report the results to Management, describe the three (3) main parts of the presentation and the areas addressed in each of the areas.

- 1) Introduction - provides the audience with the purpose and direction of the presentation.
 - Subject and purpose
 - Expected duration
 - Briefly describe major areas to be covered
 - Explanation of how questions will be handled.
- 2) Body of the presentation - provides all the information that needs to be comprehended. The following information should be presented for each area to be evaluated.
 - Criteria or requirement
 - Conditions
 - Problems or conclusions
 - Recommendations or commitments
- 3) Conclusion - A short summarization of major ideas or points.

EXERCISE 2.8-K What are the three (3) stages of the writing process for developing an Assessment Report?

- Planning
- Drafting
- Reviewing

EXERCISE 2.8-L What is the deductive style or writing used in an Assessment Report?

The first sentence of a paragraph is a general conclusion or statement of fact. The following portion of the paragraph provides sufficient information to prove the initial statement.

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Competency 4.1 Nuclear safety systems personnel shall demonstrate a working level knowledge of assessment techniques (such as the planning and use of observations, interviews, and document reviews) to assess facility performance, report results of assessments, and follow up on actions taken as the result of assessments.

1. Supporting Knowledge and/or Skills

- a. Describe the role of nuclear safety systems personnel in the assessment of Government Owned Contractor Operated (GOCO) facilities.
- b. Describe the assessment requirements and limitations associated with the interface with contractor employees.
- c. Discuss the essential elements of a performance-based assessment including:
 - Investigation
 - Fact finding
 - Exit interview
 - Reporting
 - Follow-up
 - Closure
- d. Describe the following assessment methods and the advantages or limitations of each method:
 - Document review
 - Observation
 - Interview
- e. Describe the action to be taken if the contractor challenges the assessment findings and explain how such challenges can be avoided.

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2. Self-Study Activities (corresponding to the intent of the above competency)

- NOTES: · The DOE Orders are in a state of transition. Please refer to the following world wide web site for a cross reference of new and old Orders: www.explorer.doe.gov
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Web Sites		
Organization	Site Location	Notes
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Department of Energy	http://www.explorer.doe.gov/	DOE Standards, Guides, and Orders
U.S. House of Representatives	http://law.house.gov/cfr.htm	Searchable Code of Federal Regulations

Competency 4.1 addresses assessing contractor activities and generating the necessary reports. To support the review and understanding of the competency, Supporting Knowledge and Skills and Self-Study Information has been developed. The Self-Study Information specifically address those areas needed for understanding the competency. The supporting material for the Self-Study Information include the following documents:

- 10 CFR Part 830.120, Quality Assurance Requirements
- DOE Order 5700.6C, Quality Assurance
- DOE G 414.1-1, Implementation Guide for use with Independent and Management Assessment Requirements of 10 CFR 830.120 and DOE Order 5700.6C
- Performance Based Assessments, by Paul F. Wilson and Richard D. Pearson
- Project Management, A Systems Approach to Planning, Scheduling, and Controlling, Third Edition, by Harold Kerzner, Ph.D.

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Read 10 CFR Part 830.120, Quality Assurance Requirements

Read DOE order 5700.6C, Quality Assurance

Read sections I through section IV and Appendix B of implementation guide
DOE G 414.1-1

EXERCISE 4.1-A In general terms describe the oversight activities required by the DOE Quality Assurance Orders.

EXERCISE 4.1-B Describe the difference between a management assessment and an independent assessment.

EXERCISE 4.1-C Why are thorough evaluations of importance to an organization?

EXERCISE 4.1-D List nine (9) quality assurance criteria used to determine acceptable and unacceptable performance.

Read chapters 1 through 3 of Performance Based Assessments.

EXERCISE 4.1-E State the three (3) types of assessments.

EXERCISE 4.1-F Which type of assessment provides the highest amount of objectivity? Why?

EXERCISE 4.1-G In addition to monitoring work performance and identifying abnormal performance and potential problems, what three other responsibilities does a person performing independent assessments have?

EXERCISE 4.1-H Describe the "Performance based" assessment approach.

Read chapters 4 and 5 of Performance Based Assessments.

EXERCISE 4.1-I List and describe four (4) factors that must be considered when "determining the scope" of an assessment.

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EXERCISE 4.1-J Describe the criteria used in assessing the programs of contractor activities.

EXERCISE 4.1-K List the six (6) elements of a program that should be evaluated.

Read chapters 6 through 10 of Performance Based Assessments.

EXERCISE 4.1-L Which types of questions are NOT used during the interview process of an assessment? Why?

EXERCISE 4.1-M Which evaluation technique is used to test the differences that are beyond expected repeatability?

Read Chapter 7 of Project Management, A Systems Approach to Planning, Scheduling, and Controlling

EXERCISE 4.1-N To avoid conflicts and resolve conflicts that occur, what steps should be taken?

EXERCISE 4.1-O What are the three stages of conflict management?

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EXERCISE 4.1-P For each of the following conditions:

- Determine if it is a possible source of conflict.
- If yes, classify source of conflict.
- Suggest a method of overcoming the problem.

Condition	Source of Conflict (Y/N)	Type of Conflict	Method of Overcoming
1. Team conducting assessment managed by first time team leader.			
2. Person conducting assessment responsible for developing procedure being assessed.			
3. Report generated using new procedure and format.			
4. Person generating report under pressure to complete report with fast turn around time.			
5. Person receiving report up all night with sick child.			

3. Summary

Assessing Contractor Activities

During the assessment of contractor activities there are certain criteria useful in determining the acceptance or noncompliance of an item or activity. The following criteria summarized from 10 CFR 830.120(c) and DOE Order 5700.6C, Quality Assurance, provide the basis for contractor assessments:

- **Programs-** Organizations shall develop a written plan that describes the organizational structure, functional responsibilities, levels of authority, and interfaces for those managing, performing, and assessing adequacy of work.
- **Personnel Training and Qualifications-** Personnel shall be trained and qualified to ensure they are capable of performing their assigned work. Training should emphasize correct performance of work, provide understanding of quality requirements, and stimulate professional development.
- **Quality Improvement-** The organization shall establish and implement processes to detect and prevent quality problems and to ensure quality improvement. Items and processes that do not meet established requirements shall be identified, controlled, and corrected. Correction shall include: identifying the cause of the problems and preventing reoccurrence. Item reliability, process implementation, and other quality-related information shall be reviewed and data analyzed to identify items and processes needing improvement.
- **Documents and Records-** Documents shall be prepared, reviewed, approved, issued, used, and revised to prescribed processes, specified requirements, or established designs.

Records should be maintained and provisions provided for retention, protection, preservation, traceability, accountability, and retrievability.

- **Work Processes-** Work should be performed to technical standards and administrative controls. Work shall be performed under controlled conditions using approved instructions, procedures, or other appropriate means.

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- Design- Process should use sound engineering/scientific principles and appropriate standards. Design work, including changes, shall be incorporated into applicable requirements and design bases.
- Procurement- The method of obtaining items or services that meet established requirements and be performed as specified. Prospective suppliers shall be evaluated and selected on the basis of specific criteria.
- Inspection and Testing- The process by which an item is deemed acceptable or not acceptable based on established acceptance and performance criteria.

Management Assessment- Management at all levels shall periodically assess the integrated quality assurance program and its performance. Problems that hinder the organization from achieving its objectives shall be identified and corrected.

Independent Assessment- Planned and periodic independent assessments shall be conducted to measure item quality and process effectiveness and to promote improvement. The organization performing independent assessments shall have sufficient authority and freedom from the line organization to carry out its responsibilities. Persons conducting independent assessments shall be technically qualified and knowledgeable in the areas assessed.

Participating as an Assessor

To assess contractor activities and prepare necessary reports it is imperative that the assessor actually participate in an assessment of a contractor's performance. To participate in an assessment, the assessor should contact his/her Quality organization to make the necessary arrangements. The reasons for participating in an assessment of a contractor's performance are to learn the assessment process, demonstrate the capability of assessment performance, and enhance the quality of the item or process. The three activities pertinent to assessing a contractor's performance are described below.

a. Assessing a Contractor's Performance

To adequately assess a contractor's performance, it is important that the person doing the assessing understand the elements of conducting an assessment.

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b. Reporting the Results to Management

Reporting the results to management can be accomplished in several ways:

a) Daily Updates, b) Exit Meeting, and c) Assessment Report.

- 1) Daily Updates- This method is used to provide the following:
 - Daily interchange of information
 - Adjustment of schedules or assignments
 - Summary of items assessed that day and the results
 - Request of better support from organizations being assessed
 - Areas of concern/potential findings
- 2) Exit Meeting- The Exit Meeting serves to present assessment findings, ensure understanding of the findings, and clarify any misunderstandings. If the organization being assessed was kept informed during the assessment process by daily updates, the organization should not be surprised by this presentation. Presentation of assessment findings should be consistent with information being prepared for the assessment report. If possible, a draft assessment report should be presented.
- 3) Assessment Report- An effective report provides the contractor with a complete set of findings and recommendations. The report should be reviewed with contractor management for organization and accuracy prior to issuance.

Developing an Assessment Report

When developing an assessment report the writing process consist of three stages: Planning, Drafting, and Reviewing.

- 1) Planning- The most important stage of the writing process. During this stage, critical decisions are made about the messages and how to develop and organize the messages. The end goal is to develop an outline that clearly and concisely conveys the message(s) to the organization. Such planning provides a road map for developing the written product.
- 2) Drafting- During the drafting stage, the assessor writes the report using the results of the planning stage. In writing the report, the deductive style should be used and each paragraph should have focus and flow.

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In using the deductive style, a general statement or conclusion is stated first, and then supporting information is added. The supporting information should be sufficient to prove the point of the general statement or conclusion.

- 3) **Reviewing-** Consists of examining the written product. This examination should confirm that the written message is the intended message and that it is presented clearly and concisely. Review techniques include: time between drafting and reviewing, use of a cold reader, reading aloud, and focusing on paragraphs and sentences.

Conflict Management

Conflict is defined as that condition which will exist when two or more independent parties interact. Sources of conflict are: a. Individual factors, b. Organizational issues, and c. Communication. The sources of conflict are briefly described below:

- a. Individual factors include: background, social style, perceptions, and feelings.
- b. Organizational issues include: scarcity of resources, ambiguity over regulation, competition, and exceptions.
- c. Communication conflicts can arise from problems with sender, media, and receiver.

Conflict management is defined as the process of identifying, directing, and controlling the collection of factors that result from and contribute to conflict. Stage 1 of conflict management is defining the conflict. Stage 2 is negotiating an agreement. Stage 3 is summarizing and reviewing. Once the conflict has been identified and it is determined that a meeting is necessary, the following conflict management techniques can be applied:

- Pause and think before reacting
- Keep the meeting under control
- Listen to all parties
- Maintain a give and take attitude
- Educate others tactfully
- Be willing to acknowledge when you are wrong

4. Practice Exercise Answers

EXERCISE 4.1-A In general terms describe the oversight activities required by the DOE Quality Assurance Orders.

The DOE orders require the contractor to establish quality assurance programs to control their products and services. Assessments of these programs are required to ensure the quality of the product is maintained.

EXERCISE 4.1-B Describe the difference between a management assessment and an independent assessment.

Management assessments are conducted for the management of the facility. These assessments examine the programs and practices which run the facility. Independent assessments examine all elements which affect item or service quality.

EXERCISE 4.1-C Why are thorough evaluations of importance to an organization?

Thorough evaluations support the credibility of the evaluation. Whatever conclusions are reached, there should be sufficient detail and supporting material to support the conclusion. The evaluated organization is more likely to adopt evaluations that are a true measure of their performance.

EXERCISE 4.1-D List nine (9) quality assurance criteria used to determine acceptable and unacceptable performance.

- Programs
- Personnel Training and Qualification
- Quality Improvement
- Documents and Records
- Work Processes
- Design
- Procurement
- Inspection and Acceptance Testing
- Management and Independent Assessment

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EXERCISE 4.1-E State the three (3) types of assessments.

- Internal
- Self
- External (also known as Independent)

EXERCISE 4.1-F Which type of assessment provides the highest amount of objectivity? Why?

External (Independent) assessments offer more objectivity. These assessments are those conducted by someone other than the individual, group, or organization. The advantage of an independent assessment is that the assessor is not associated with the actual process or activity.

EXERCISE 4.1-G In addition to monitoring work performance and identifying abnormal performance and potential problems, what three other responsibilities does a person performing independent assessments have?

- Identify opportunities for improvement
- Report results to a level of management having the authority to effect corrective action
- Verify satisfactory resolution to problems

EXERCISE 4.1-H Describe the "Performance based" assessment approach.

Performance Based assessments are merely a logical extension of the compliance plus effectiveness concept. Performance Based assessments provide additional focus toward client expectation, better practices, and process refinement. Performance Based relates to the outcome/result of an activity or process through direct observation and evaluation against defined requirements.

EXERCISE 4.1-I List and describe four (4) factors that must be considered when "determining the scope" of an assessment.

Any four of the following

- QA Systems- Refer to the criteria of DOE Order 5700.6C, 10 CFR 830.120, or the QA Manual of the facility being

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assessed.

- Organizational Entities- Management personnel that have the responsibilities within the evaluation topic.
- Locations- Physical area where assessment items exist.
- Programs and Activities- Types of programmatic and work processes.
- Hierarchy of Procedures- The level of procedures that are used to determine performance during the assessment.
- Calendar Time- The time allotted for an assessment. Time can affect the population to be assessed. Compliance and performance based assessments use some prior time up to the present.

EXERCISE 4.1-J Describe the criteria used in assessing the programs of contractor activities.

Programs- Organizations shall develop a written plan that describes the organizational structure, functional responsibilities, levels of authority, and interfaces for those managing, performing, and assessing adequacy of work.

EXERCISE 4.1-K List the six (6) elements of a program that should be evaluated.

- Commitments
- Organization
- Procedures
- Practice
- Records
- Product

EXERCISE 4.1-L Which types of questions are NOT used during the interview process of an assessment? Why?

Leading and loaded questions are to be avoided. Using leading and loaded questions prevent the free exchange of information.

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EXERCISE 4.1-M Which evaluation technique is used to test the differences that are beyond expected repeatability?

The Reinspect/Retest technique requires the evaluation team to reinspect/retest the product, compare results with those obtained by the initial inspection/test, and explore the differences that are beyond expected repeatability.

EXERCISE 4.1-N To avoid conflicts and resolve conflicts that occur, what steps should be taken?

- Ensure adequate preparation by the team
- Establish team responsibilities and communications
- Keep the organization being evaluated informed
- Involve the team leader
- Extract the facts on both sides of the issue
- Compare facts to requirements
- Either reach agreement or agree to disagree

EXERCISE 4.1-O What are the three stages of conflict management?

- Defining the conflict
- Negotiating an agreement
- Summarizing and reviewing

EXERCISE 4.1-P For each of the following conditions:

Determine if it is a possible sources of conflict.
If yes, classify source of conflict.
Suggest a method of overcoming the problem.

Condition	Source of Conflict (Y/N)	Source of Conflict (Type)	Method of Overcoming
1. Team conducting assessment managed by first time team leader.	Possible	Individual Organizational	Possible perception of evaluated organization that the new leader is not capable/effective at performing the task. Less experienced

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Condition	Source of Conflict (Y/N)	Source of Conflict (Type)	Method of Overcoming
			people often regarded negatively. Ensure leader is trained and experienced in performing assessments. Separate people from the problem. Identify and address individual problem areas rather than large generalizations. Separate feelings from reality.
2. Person conducting assessment responsible for developing procedure being assessed.	No	None	None
3. Report generated using new procedure and format.	Yes	Communication	Ensure that all personnel involved with process understand the new procedure and format. Provide objective evidence with validity of new process.
4. Person generating report under pressure	Yes	Individual Organizational	Personnel with perception that more is required of them may react negatively. Justify the shorter time

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Condition	Source of Conflict (Y/N)	Source of Conflict (Type)	Method of Overcoming
to complete report with faster turn around time.			<p>frame expected for the report. Validate the feasibility of the time. Consider negotiating an acceptable time.</p> <p>Scarcity of resources is potential organizational issue leading to conflict. Time is a valuable resource. Ensure that adequate time is available for accomplishing assigned tasks</p>
5. Person receiving report up all night with sick child.	Possible	Individual	Personnel that are fatigued may be unreceptive to perceived criticism, ensure that all comments are objective and can be supported.